

# Civil Report Card On GPS Performance

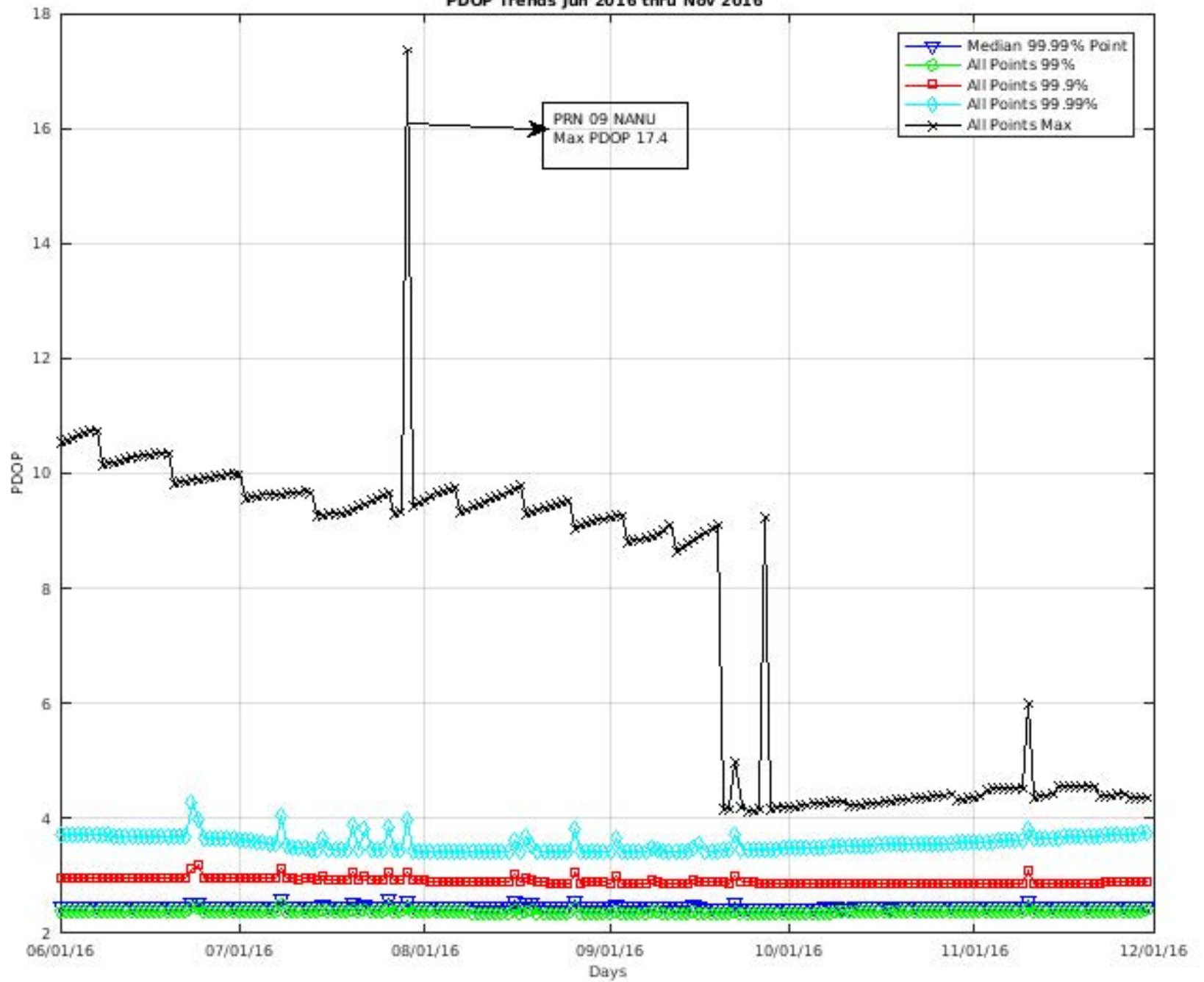
## Nov 2016

Operational Performance Parameter	CY 2015	Oct 2016	Nov 2016	Long term	Short term
<b>Availability Parameters</b>					
<i>Average Number of satellites usable</i>	30.50	31	30.99	↑	↓
<i>Average number of satellites usable in primary slots</i>	23.99 (99.94%)	24 (100%)	23.99 (99.96%)	→	↓
<i>Average availability of 6 satellites in view</i>	99.99%	100%	100%	↑	→
<b>99.99% Horizontal DOP</b>					
<i>Area Median</i>	1.4	1.3	1.3	↑	→
<i>Worst Site</i>	9.4	2.1	2.5	↑	↓
<b>99.99% Vertical DOP</b>					
<i>Area Median</i>	2.5	2.2	2.2	↑	→
<i>Worst Site</i>	34.5	4.0	5.4	↑	↓
<b>99.99% Position DOP (PDOP)</b>					
<i>Area Median</i>	2.8	2.5	2.6	↑	↓
<i>Worst Site</i>	35.7	4.4	5.9	↑	↓
<b>100% RAIM Availability (HAL=185m)</b>					
<i>NPA Service Area (NSA)</i>	51.34%	99.79%	99.42	↑	↓
<i>World</i>	55.97%	91.25%	80.54	↑	↓
<b>Accuracy Parameters</b>					
<b>RMS Single Frequency User Range Error</b>					
<i>Constellation Median</i>	1.91	1.64	1.64	↑	→
<i>Worst Satellite</i>	2.38	16.43	13.12	↓	↑
<b>95% Horizontal Error</b>					
<i>Area Median</i>	2.71	2.02	1.81	↑	↑
<i>Worst Site</i>	9.02	4.96	7.82	↑	↓
<i>Availability (% &lt;4.5m (historical 3-sigma))</i>	98.66%	99.63%	99.91%	↑	↑
<b>95% Vertical Error</b>					
<i>Area Median</i>	4.61	3.66	3.95	↑	↓
<i>Worst Site</i>	8.36	4.62	15.03	↓	↓
<i>Availability (% &lt; 9m (historical 3-sigma))</i>	99.79%	99.98%	100%	↑	↑

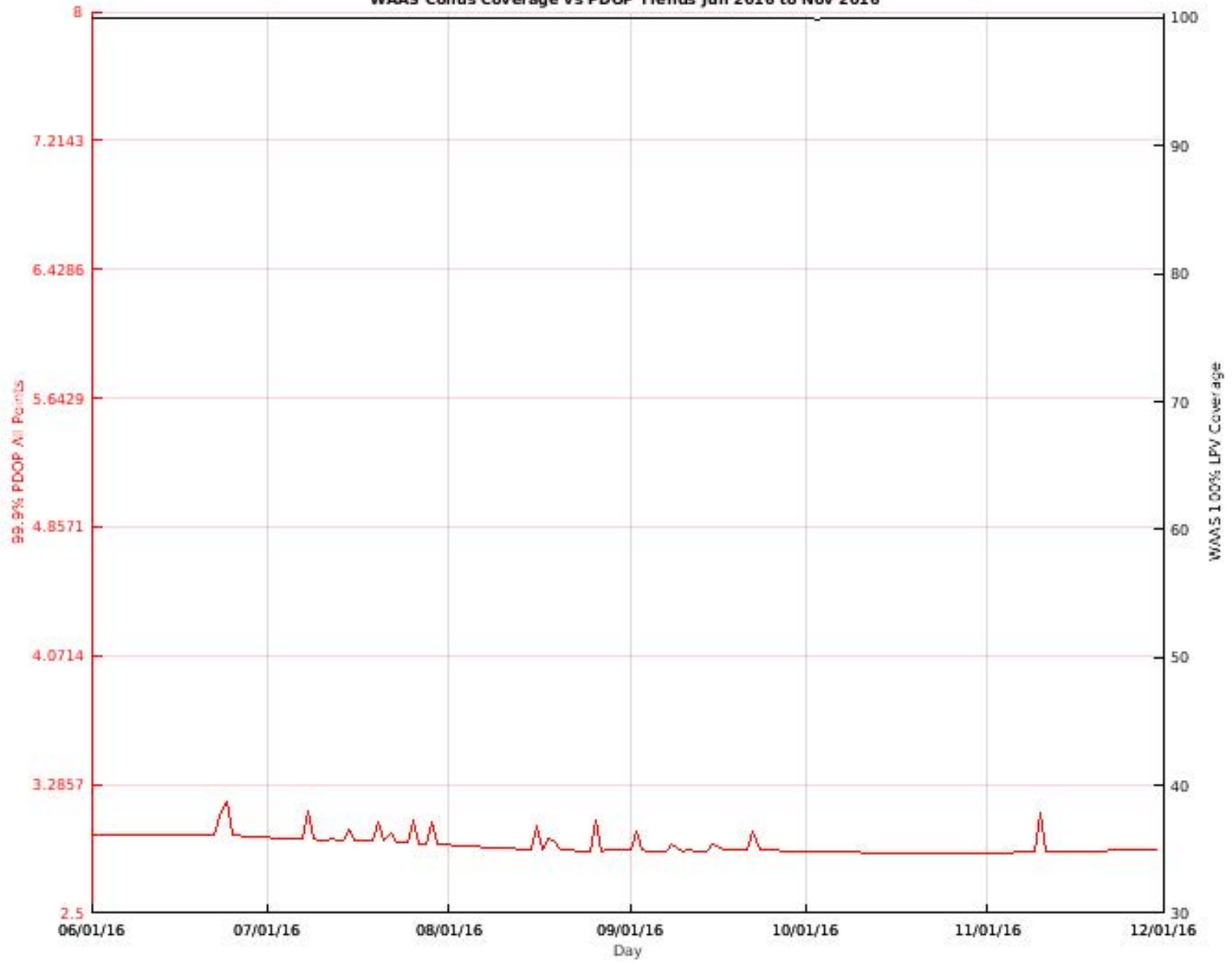
Key: ↑ improving ↓ worsening → no significant change

Long Term is current month vs. prior 24 months; Short Term is current month vs. prior month

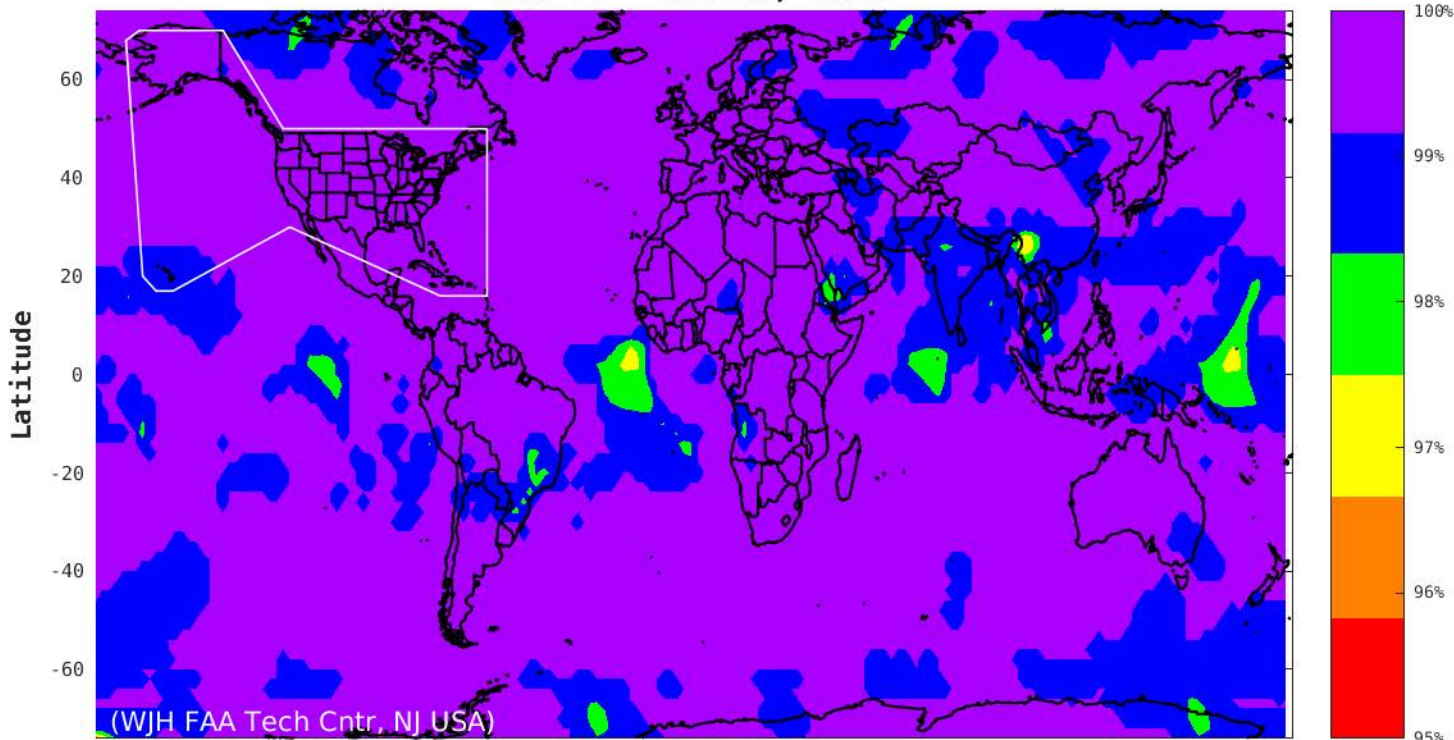
PDOP Trends Jun 2016 thru Nov 2016



WAAS Conus Coverage vs PDOP Trends Jun 2016 to Nov 2016



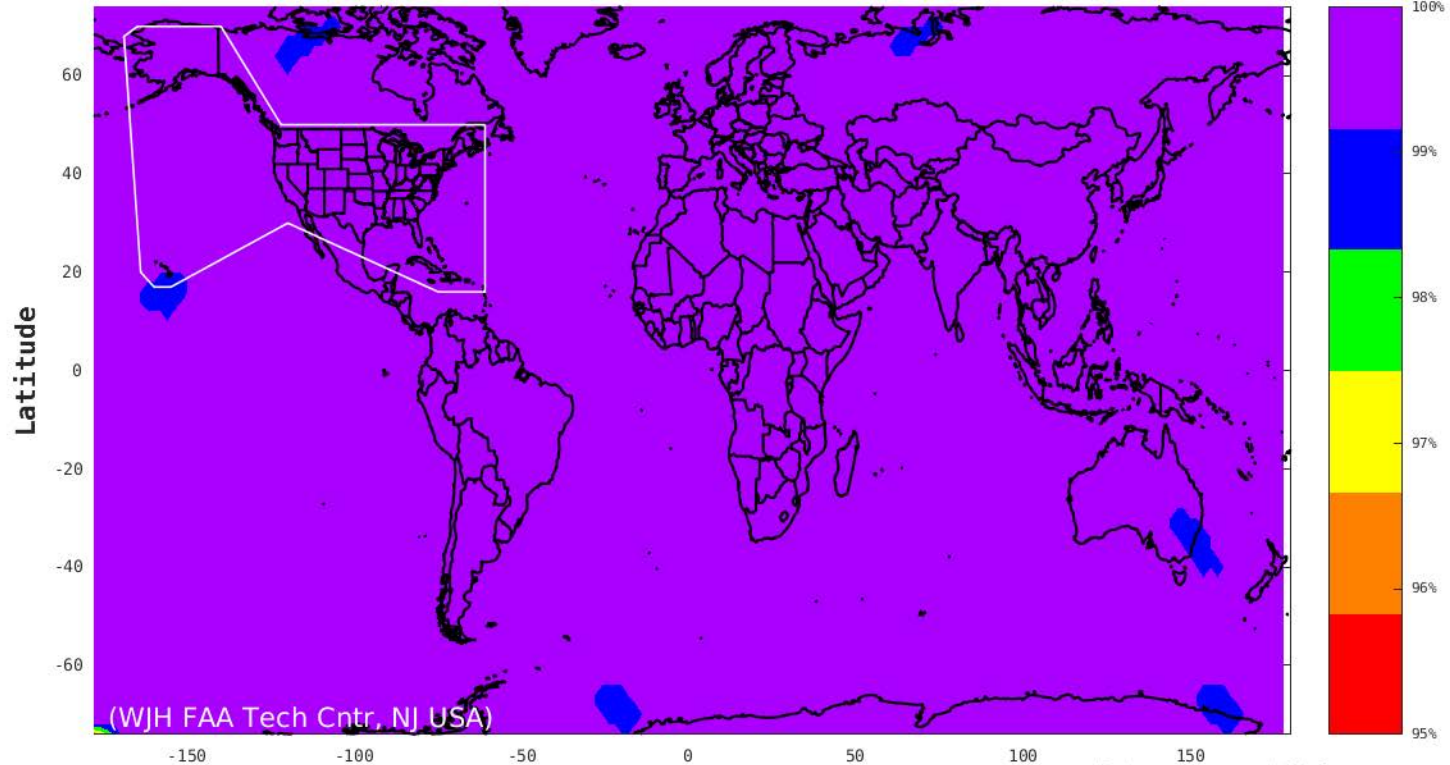
**SPS RAIM RNP 0.1 (HAL = 185m) Availability  
 FD Only, SA Off, without Baro-Aiding  
 Nov 1 - Nov 30, 2016**



W.J.H. FAA Technical Center  
 WAAS Test Team  
 12/19/16

100 Percent Avail.	150 WNR Coverage	Global
95	100.00%	100.00%
98	100.00%	99.89%
99	100.00%	98.46%
100	96.42%	80.54%

**SPS RAIM RNP 0.3 (HAL = 556m) Availability  
 FD Only, SA Off, without Baro-Aiding  
 Nov 1 - Nov 30, 2016**



W.J.H. FAA Technical Center  
 WAAS Test Team  
 12/19/16

Longitude (2 degree sample size)

100	150	Global
Percent Avail.	WNR Coverage	
95	100.00%	100.00%
98	100.00%	100.00%
99	100.00%	100.00%
100	99.68%	99.34%

# GPS World PDOP 99.99% Index Nov 2016

